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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/396,303	09/15/1999	ALEJANDRO H. SCHWARTZMAN	CISCP092X1/1	7238

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EXAMINER
TRAN, KHANH C

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 03/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/396,303	Applicant(s) SCHWARTZMAN ET AL.	
	Examiner Khanh Tran	Art Unit 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18, 22-24* is/are rejected.

7)☒ Claim(s) *19-21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. The Amendment B filed on December 13, 2002 has been entered. Claims 1-24 are pending in this application. New claims 19-24 are added.

Response to Arguments

2. Applicant's arguments filed on December 13, 2002 have been fully considered but they are not persuasive. The examiner maintains the rejection of claims 1-5, 8-15, 17 and 18.

Regarding to Applicant's argument on claim 1, as known in the art, there are number of ways to implement a switch without utilizing an actual switch for various reasons to turn on or off certain component. As recited in the rejection, the transmitter section 32 of the RF transceiver 30 shown in figure 2 of Wang's invention includes an AGC amplifier 102 to received the differential transmit data, which is provided by the DSP 16. The AGC amplifier 102, implemented using a NEC AGC amplifier, includes an on-chip AGC amplifier 104 and a bias circuit 106, controlled by the DSP 16 through a PSave signal 110. The PSave signal 110 is effectively used as a transmitter enable signal effectively to enable the functional operation of the driver 108 or to shut down and terminate the power consumption by the driver 108. For further clarification of the rejection, referring to figure 1, Wang illustrates a block diagram of a "compact Cable modem transceiver" including a digital signal processor 16, an RF transceiver 12 that is disclosed in detail in figure 2, a control microprocessor 18. It's evident that the DSP 16

is part of a transmitter that controls the transmitter section 32 of the RF transceiver 12. The DSP 16 enables and shuts down the driver 108 by sending the PSave signal 110 through the bias 106. Hence, Wang's teachings read every limitation in the claim.

3. The next section shows previous rejections of claims 1-5, 8-15, 17 and 18 in addition to new ground of rejections of claims 6, 7, 16, and new claims 19-21.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-5, 8-15, 17-18, 22-24 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Wang U.S. Patent 6,160,571.

Regarding claim 1, Wang discloses in figure 2 an RF transceiver circuit including a transmitter section 32 and a receiver section 34. The transmitter 32 (column 6, lines

21-60) comprising TX IN1 and TX IN2 98 data lines to provide differential transmit data to an AGC amplifier 102. The differential transmit data is received and amplified by the on-chip AGC 104. When enabled, a bias circuit 106, also provided on-chip, provides a bias signal to the AGC 104 to enable the amplification function. A bias signal from the bias circuit 102 is provided on a control line 112 to a driver 108 that is differentially coupled to the output of the AGC amplifier 104. The driver 108 transmits data through the low-pass filter 40 of the diplexer 36 and to the cable plant 14. Wang further teaches that providing a bias signal enables the functional operation of the driver 108 for transmission of data signal. Conversely, withdrawal of the bias signal preferably operates to shut down and terminate power consumption by the driver 108. Consequently, the driver 108 performs a function of a switch to effectively turn "on or off" the transmitter section of the RF transceiver 12. Referring to figure 1, Wang illustrates a block diagram of a "compact Cable modem transceiver" including a digital signal processor 16, an RF transceiver 12 that is disclosed in detail in figure 2, a control microprocessor 18. It's evident that the DSP 16 is part of a transmitter that controls the transmitter section 32 of the RF transceiver 12. The DSP 16 enables and shuts down the driver 108 by sending the PSave signal 110 through the bias 106.

Regarding claim 2, Figure 6, column 10, lines 21-52, shows a schematic diagram of an alternate transmitter section in Wang's invention, which includes an electronic switch 144 that selectively couples one end of the second winding of a RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40 (shown in figure 2) when transmission of an RF signal is enabled. When the state of the PSAVE control

signal 110 is set to disable transmission, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a resistive load to an RF signal ground, thus establishing a fixed termination characteristic for the transmitter portion of the diplexer circuit 40 during periods of RF reception. Therefore, the switch 144 functions as a plurality of switches.

Regarding claim 3, referring to figure 6 again, Wang teaches that the electronic switch 144 selectively couples one end of the second winding of a RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40 (shown in figure 2) when transmission of an RF signal is enabled.

Regarding claim 4, referring to figure 6 again, Wang teaches that when the state of the PSAVE control signal 110 is set to disable transmission, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a 75-ohm resistive load to an RF signal ground, thus establishing a fixed termination characteristic for the transmitter portion of the diplexer circuit 40 during periods of RF reception.

Regarding claim 5, said switch 144 is attached to a 75-ohm resistive load during periods of RF reception.

Regarding claim 8, referring to figure 6 again, the switch 144 is not contained in any other component in the transmitter.

Regarding claim 9, Wang teaches that the electronic switch 144 selectively couples one end of the second winding of a RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40 (shown in figure 2) when transmission of an RF signal is enabled.

Regarding claims 10 and 18, Wang discloses in figure 2 an RF transceiver circuit including a transmitter section 32 and a receiver section 34. The transmitter 32 (column 6, lines 21-60) comprising TX IN1 and TX IN2 98 data lines to provide differential transmit data to an AGC amplifier 102. The differential transmit data is received and amplified by the on-chip AGC 104. When enabled, a bias circuit 106, also provided on-chip, provides a bias signal to the AGC 104 to enable the amplification function. A bias signal from the bias circuit 102 is provided on a control line 112 to a driver 108 that is differentially coupled to the output of the AGC amplifier 104. The driver 108 transmits data through the low-pass filter 40 of the diplexer 36 and to the cable plant 14. Wang further teaches that providing a bias signal enables the functional operation of the driver 108 for transmission of data signal. Conversely, withdrawal of the bias signal preferably operates to shut down and terminate power consumption by the driver 108. Referring to figure 1, Wang illustrates a block diagram of a "compact Cable modem transceiver" including a digital signal processor 16, an RF transceiver 12 that is disclosed in detail in figure 2, a control microprocessor 18. It's evident that the DSP 16 is part of a transmitter that controls the transmitter section 32 of the RF transceiver 12. The DSP 16 enables and shuts down the driver 108 by sending the PSave signal 110 through the bias 106.

Regarding claim 11, Wang discloses, in figure 2, a bias signal from the bias circuit 102 is provided on a control line 112 to a driver 108 that is differentially coupled to the output of the AGC amplifier 104. The driver 108 transmits data through the low-pass filter 40 of the diplexer 36 and to the cable plant 14. Providing a bias signal enables the functional operation of the driver 108 for transmission of data signal.

Regarding claim 12, referring to figure 6, an electronic switch 144 selectively couples one end of the second winding of a RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40 (shown in figure 2) when transmission of an RF signal is enabled.

Regarding claim 13, the switch 144 connecting to a 75-ohm resistive load is open when transmission of an RF signal is enabled.

Regarding claim 14, Wang teaches in figure 6 that when the state of the PSAVE control signal 110 is set to disable transmission, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a 75-ohm resistive load to an RF signal ground, thus establishing a fixed termination characteristic for the transmitter portion of the diplexer circuit 40 during periods of RF reception.

Regarding claim 15, during periods of RF reception, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a 75-ohm resistive load to an RF signal ground. That effectively disconnects a data signal path to a diplexer circuit 40.

Regarding claim 17, Wang discloses, in figure 2, a bias signal from the bias circuit 102 is provided on a control line 112 to a driver 108 that is differentially coupled to the output of the AGC amplifier 104. The driver 108 transmits data through the low-pass filter 40 of the diplexer 36 and to the cable plant 14.

Regarding claims 22-24, as recited in claim 1, referring to figure 2 again, as with the AGC amplifier 104, provision of the bias signal enables the functional operation of the driver 108 for effectively activating the AGC 104. Conversely, withdrawal of the bias

signal preferably operates to shut down and terminate power consumption by the driver 108 for effectively deactivating the AGC 104.

Claim Rejections - 35 USC § 103

5. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang U.S. Patent 6,160,571 as applied to claim 1 above, and further in view of Bowyer et al. US Patent 6,307,597 B1.

Regarding claim 6, Wang's teachings show the driver 108 and the AGC amplifier 102 implemented with on separate chip. However, with the advance of the IC technology, it would have been obvious that one can easily include both the driver 108 and the AGC amplifier 102 on the same IC circuit. As also shown in Boyer et al.'s invention, which is directed to a method of transmitting a leakage tagging signal into a CATV television signal, a tag insertion arrangement 20 is a circuit that is operable to generate a tagging signal that is detectable by corresponding leakage detecting equipment. The tag insertion circuit 20 includes a pulse switch 50 comprising an RF switch 60 and a switchable amplifier 62, each having a control input connected to the control input 50a. Again, it would have been obvious for one of ordinary skill in the art to implement the switch component into an amplifier with the existing IC technology.

Regarding claim 7, Wang shows in figure 2 that the on-chip AGC amplifier 104 is a variable amplifier. It would have been obvious that a variable amplifier (with AGC) is always employed in a transmitter circuit as being known in the art.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang U.S. Patent 6,160,571 as applied to claim 1 above, and further in view of Citta US Patent 4,528,663.

Regarding claim 16, Wang fails to disclose in the invention the steps of determining whether an amplifier in the cable modem can enable at a sufficient speed and activating the switch component if the amplifier cannot enable at a sufficient speed. Citta's invention is directed to a method of improving subscriber upstream communication in a two-way CATV system. During a relatively short peak periods in which a large number of subscribers transmit upstream program authorization requests, the likelihood of upstream data message collision is very high. Therefore, Citta teaches that the upstream transmission window is increased in length to a maximum value. It would have been obvious that more gain is needed to have sufficient speed to overcome the collision problem. Then, the window is reduced in length, and of course the amplifier gain is also reduced to accommodate reduced upstream traffic to improve system throughput. The step of increasing or decreasing the window size corresponds to the step of activating the switch component to enable the amplifier, and the step of determining the peak period or the off-peak period corresponds to the step of determining whether the amplifier can enable at sufficient speed to avoid the data collisions. Therefore, it would have been obvious that the combination of Wang and Citta's teachings would have been obvious to one of ordinary skill in the art.

Claim Objection

7. Applicant is advised that should claims 1 and 6 be found allowable, claim 19 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

8. Applicant is advised that should claims 1, 6-7 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

9. Applicant is advised that should claims 10 and 16 be found allowable, claim 21 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Monday - Friday from 08:00 AM - 04:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

KCT
February 27, 2003